

1. my answer will be higher than the correct one ✓

2. when the sign of ΔH changes this means the chemist reversed the equation ✓

3. when more experimental errors are produced, the percent yield decreases

4. 1.00 kg of FeS_2

$$\frac{1000 \text{ g FeS}_2}{1} \cdot \frac{1 \text{ mol of FeS}_2}{120.0 \text{ g FeS}_2} = 8.333 \text{ moles of FeS}_2 \cdot \frac{2 \text{ moles H}_2\text{SO}_4}{1} = 16.67$$

$$\frac{16.67 \text{ moles H}_2\text{SO}_4}{1} \cdot \frac{98.1 \text{ g H}_2\text{SO}_4}{1} = 1635.5 \text{ g H}_2\text{SO}_4 = 1.635 \times 10^3 \text{ g}$$

$= 1.64 \text{ g H}_2\text{SO}_4$
 $\text{kg} \leftarrow -1$

5. 100.0 g Fe and H_2SO_4

$$100.0 \cdot \frac{1 \text{ mole}}{55.8 \text{ g Fe}} = 1.79 \text{ moles Fe}$$

$$\frac{100.0 \text{ g H}_2\text{SO}_4}{1} \cdot \frac{1 \text{ mole}}{98.1 \text{ g H}_2\text{SO}_4} = 1.02 \text{ moles H}_2\text{SO}_4$$

6. 25 g each reactant \rightarrow 2.5 g of HF

Pj?

$$25 \text{ g CaF}_2 \cdot \frac{1 \text{ mol}}{78.1 \text{ g}} = 0.32 \text{ moles CaF}_2$$

$$\text{CaF}_2: 0.32 \text{ moles}$$

$$25 \text{ g} \cdot \frac{1 \text{ mol}}{98.1 \text{ g}} = 0.25 \text{ moles H}_2\text{SO}_4$$

$$0.25 \cdot 2 \text{ HF} = 0.50 \text{ moles HF}$$

$$\frac{0.50 \text{ moles}}{1} \cdot \frac{20.0 \text{ g HF}}{1 \text{ mole}} = 10 \text{ g HF}$$

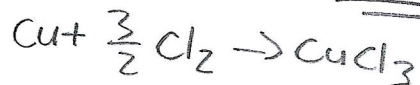
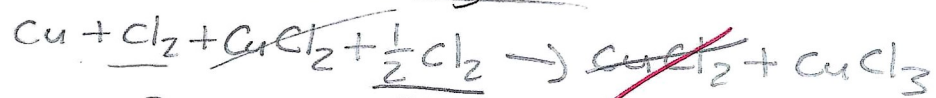
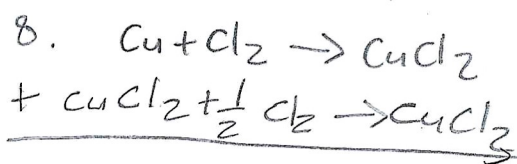
$$\frac{2.5 \text{ g}}{10} (100) = 25\%$$

Test 1

$$\frac{18}{19}$$

95%

$$7. \Delta H = 3 \cdot 206 = 618 \text{ J} \quad \checkmark$$



$$9. \Delta H = -206.0 \text{ KJ}$$

$$\Delta H = -776.8 \text{ KJ} +$$

$$\Delta H = -982.8 \text{ KJ} \quad \checkmark$$



$$\Delta H \text{ of } \text{MnO}_2(\text{s}) = -520.0 \text{ KJ}$$

$$-520.0 \cdot 2 = -1040$$

$$+ 269.7$$

$$= -770.3 \text{ KJ} \quad \checkmark$$